

Purchase Order Receipt Listing

Wednesday, September 27, 2017 10:43:20 AM

All Vendors PO ID PO37836 Receipt Dates from 9/26/2017 to 9/26/2017 All Line Item Types
 All Item ID/GL/WOs All Rec. Employees All Currencies
 Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp	Project ID	Reference/ Description/ Cert Std	PO U/M/ Stock U/M	Required Date Required Qty	Recv Date/ Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID/Vendor Name VC-CAM002 Acier Onelle Inc.											
PO37836	2		M4140H-RL.750		10/6/2017	9/26/2017	2.0000	\$29.91	0.0000	0	\$59.83
CAD	No		4140 Round Bar 1.750		2.0000	PL0U01		\$59.83	0.0000	0	
			ml38616								
	3		MT-HRPO-S6GA	sf	10/6/2017	9/26/2017	50.0000	\$5.74	0.0000	0	\$287.17
	No		Hot Rolled Pickled & Oiled Steel Sheet 6GA		50.0000	PL0U01		\$287.17	0.0000	0	
			ml38616								
	4		M1018R2.250	f	10/6/2017	9/26/2017	1.0000	\$13.69	0.0000	0	\$13.69
	No		M1018R2.250	f	1.0000	PL0U01		\$13.69	0.0000	0	
			ml38616								
	5		MT-HRS-P-0.375	sf	10/6/2017	9/26/2017	16.0000	\$11.10	0.0000	0	\$177.63
	No		Hot Rolled Steel Plate 0.375" (44W)		16.0000	PL0U01		\$177.63	0.0000	0	
			ml38616								
	6		71401-45		10/6/2017	9/26/2017	1.0000	\$0.00	0.0000	0	\$0.00
	No		PROCUREMENT QUALITY CLAUSES		1.0000	PL0U01		\$0.00	0.0000	0	
			ml38616								

Total Received Quantity: 70.0000
 Total Qty to Inspect (PO U/M): 0.0000
 Total Reject Quantity: 0.0000
 Total Receipt Value: \$538.32
 Total Balance Due Quantity: 0.0000



ACIER OUELLETTE INC.

Order - Sales

COPY

CO00052756

935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J65 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N°

CL10001056

Date

2017/09/22

Delivery date

2017/09/26

Your order N°

37836

Processed by

Josianne Bourdon

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.

HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att: CHANTAL LAVOIE Tél.: 613-632-5200

Delivery Route 5

Page

1

Product Description	Weight	Qty	U/M	PCS NB				Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C	OUT
1 PLATE 44W 3/8 RANDOM P44-38-V 4116 1 X 4' X 4' HEAT: 7093C4-51 COUPE AU FEU FEU 3 DAS 5 9-89	244.80	16.00	PI2_\$CLB	1.00							
2 ROUND CR 2 1/4 1018 RANDOM RCR-214-V 5301 1 X 12" HEAT: 136550 COUPE A LA SCIE SCIE 1 DAS 5 9-89	13.52	1.00	PL_\$CLB	1.00							
3 PLATE HRPO 3/16 RANDOM NS PPO-316-V 9029 1 X 5' X 10' HEAT: AC-9571-RY-25/09 9373C4-55 DAS 5 9-89	383.00	50.00	PI2_\$CLB	1.00							

NIR : R-109516-6

Next Page...



ACIER OUELLETTE INC.

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Order - Sales

COPY

CO00052756

Customer N°

CL10001056

Date

2017/09/12

Delivery date

2017/09/26

Your order N°

37836

Processed by

Josianne Bourdon

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Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only					
				CMD	EXP	B/O	IN	I	S	C	OUT	
4 COLD DRAWN SEAM. TUBING 1" OD X .120 4130 N 1 X 20' HEAT: 217067 AC9573-MM-25/09		1.00	UN	1.00								
5 ROUND 4140 HEAT TREAT 1 3/4 (20R) R4140-134H-20 4910 1 X 2' HEAT: 166509 COUPE A LA SCIE 5 SCIE 9-89 1 SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE	16.36	2.00	PL_SCLB	1.00								
		1.00	UN									
			\$	0.00								

Total Weight (LBS) : 657.68

Total Weight (LBS) : 657.68

NIR : R-109516-6

Conditions :

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All test materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc" is the same as offered and insured by the manufacturer and his warranty is transferred by "Acier Ouellette Inc" to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% resending charge.

Prepared By :

Verified By :

Delivered By :

Time

Customer's Signature

Y

M

D

Total (\$CAD)

1 055.18

Deposit

0.00

Balance

1 055.18



ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

4110 48100

SO No., Item & Date: 8050589 000060 2017/03/12		Shipment No. & Date: 1200008792 2017/03/12		TC No., Date & Time: ESA-385275 2017/03/13 - 01:40:39																													
Sold to Customer Name and Address: LES ACIER TRANSBEC (1997) LTEE BOUL LE CORBUSIER #201-105-4 LAVAIL, Quebec, Canada H7L 5R2		Ship to Customer Name and Address: LES ACIER TRANSBEC (1997) LTEE RUE JEAN COUTU 350 VARENNES, Quebec, Canada J3X 1P7		Customer PO NO./Item: G-46220(REV) / 8 BOL NO.: 1200008792 Cust. Part No.: Carrier: C P RAIL (CAD FUNDS) - CGLX 12069																													
Customer Specification: HR STEEL SHEET HSLA 50-SS To the Chemistry of CSA G40 21 44W (2013) Top Semi Critical Surface Improved Shape Gauge type MIN - 0/+ 0.0100 -																																	
Supplementary Instructions: Test Cert 1: mtr@colex.ca Test Cert 2: nathalie.legault@aciertransbec.com																																	
Insp T/R: Test Report For Info Only																																	
ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (709) 945-4568 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT. THIS TEST REPORT HAS BEEN GENERATED BY A COMPUTERIZED SYSTEM AND IS VALID WITHOUT A PHYSICAL SIGNATURE. MEETS EN 10204 3.1 ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEEL.COM																																	
ALL HEATS FULLY KILLED HEATS INDICATED WITH (*) FINE GRAINED HEATS INDICATED WITH (+) Made in Canada for NAFTA duty preference and NAFTA marking purposes																																	
<table border="1"><thead><tr><th>Dimensional (T x W x L)</th><th>Batch No.</th><th>Heat No.-MS</th><th>Quantity</th><th>Pcs</th></tr></thead><tbody><tr><td>0.3650 * X 48.000 *</td><td>XBM9191</td><td>7093C4-51</td><td>42,184 LB</td><td>1</td></tr></tbody></table>						Dimensional (T x W x L)	Batch No.	Heat No.-MS	Quantity	Pcs	0.3650 * X 48.000 *	XBM9191	7093C4-51	42,184 LB	1																		
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Campe

KASHIF REHMAN
MANAGER METALLURGICAL SERVICES

WARNING THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE, INCLUDING DESIGN OR CALCULATIONS, AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

48490 UGAO-MIRAVALLES/VIZCAYA (SPAIN)
 ARANA Y LUPARDO, 2
 Tfno.: 946480211
 Fax: 946480128
 E-mail: calbradospradca@calbradospradca.es
 www.calbradospradca.es

CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a/Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 44806

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE

Delivery Note Nr.

Norma: EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm:

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING ASTM A108

N° Pedido	Descripción	Unidad	Cantidad	Valor Unitario	Valor Total
PAJ-46322	RED. ESTIRADO 47,63 (1 7/8")		1.170	-0,076	915794
PAR-46187	RED. ESTIRADO 50,80 (2")		1.062	-0,102	915559
OU-46514	RED. ESTIRADO 42,86 (1 11/16")		1.116	-0,076	136191
MJP-46560	RED. ESTIRADO 63,50 (2 1/2")		1.078	-0,076	136287
PAR-46560	RED. ESTIRADO 63,50 (3")		1.104	-0,102	915720
PAR-46465	RED. ESTIRADO 41,28 (1 5/8")		978	-0,076	915595
OU-46534	RED. ESTIRADO 50,80 (2")		1.076	-0,076	133019
OU-46534	RED. ESTIRADO 57,15 (2 1/4")		1.082	-0,076	136550
PAR-46465	RED. ESTIRADO 44,45 (1 3/4")		1.002	-0,076	915642
PAR-46465	RED. ESTIRADO 50,80 (2")		1.060	-0,102	915559
PAJ-46606	RED. TORNADO 101,6 (4")		1.170	-0,102	915786
PAJ-46636	RED. TORNADO 76,20 (3")		1.104	-0,102	915720
PAJ-46636	RED. ESTIRADO 41,28 (1 5/8")		2.096	-0,076	915595
PAJ-46636	RED. ESTIRADO 44,45 (1 3/4")		850	-0,076	915642
PAR-46496	RED. ESTIRADO 63,50 (2 1/2")		1.076	-0,076	915650
MJP-46589	RED. ESTIRADO 50,80 (2")		986	-0,076	136676
1018	RED. ESTIRADO 57,15 (2 1/4")		1.082	-0,076	136677
1018	RED. ESTIRADO 63,50 (2 1/2")		924	-0,076	915650
MN-45449	RED. TORNADO 76,20 (3")		1.104	-0,102	915720
MN-45449	RED. TORNADO 88,90 (3 1/2")		902	-0,102	915641
1018	RED. ESTIRADO 61,91 (2 7/16")		1.076	-0,076	135756

Composición química de la colada / Chemical Analysis of the cast

MEDIDA	OF	COLADA	Cost Nr.
47.63	915794	40212 IS	0.170
50.80	915559	40209 IS	0.445
42.86	136191	39873 IS	0.180
63.50	136278	40570 IS	0.160
76.20	915720	40324 IS	0.170
41.28	915559	39873 IS	0.180
50.80	133019	39235 A	0.161
57.15	136530	40585	0.170
44.45	915642	40006 A	0.164
50.80	915559	40209 IS	0.445
101.60	915786	39882 A	0.163
76.20	915720	40324 IS	0.170
41.28	915595	39873 IS	0.180
44.45	915642	40006 A	0.164
63.50	915850	40570 IS	0.160
50.80	136876	40014 IS	0.160
57.15	136877	40585	0.170
47.63	915794	40212 IS	0.170
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ARANA Y LUPARDO, 2
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Tfno.: 946480211
Fax: 946480128
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CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / Made according to:

EN-10204/DIN 50049

3.1

ALBARAN 44806	CLIENTE	CUSTOMER
Delivery Note Nr.	LES ACIERS TRANSBEC (1997) LTÉE	

Nº CERTIFICADO / CERTIFICATE NR.: 44806

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norma :

Bright steel products. Technical delivery conditions.

	C	Mn	P	S	%	SI
63,50	0,160	0,680	0,013	0,022	0,300	
76,20	0,170	0,610	0,013	0,020	0,290	
88,90	0,170	0,610	0,010	0,003	0,310	
61,91	0,160	0,710	0,016	0,003	0,330	

Características mecánicas / Mechanical properties

MECIDA	OF	COLADA	Resistencia Tens. strength N/mm ²	Lim.elástico Yield point 0,2% N/mm ²	Alargamiento Elongation Lo=50 mm.	Dureza HB
Measurement		Cast Nr.				HB
47,63	915794	40212 IS	0,00	0,00	0,00	154,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
42,86	136191	39873 IS	0,00	0,00	0,00	142,00
63,50	136287	40570 IS	0,00	0,00	0,00	156,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
41,28	915595	39873 IS	0,00	0,00	0,00	142,00
50,80	133019	39235 A	480,20	338,10	31,00	0,00
57,15	136550	40585	478,00	305,00	33,00	133,00
44,45	915642	40006 A	450,80	317,46	0,00	0,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
42,86	136191	39873 IS	0,00	0,00	0,00	142,00
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44,45	915642	40006 A	450,80	317,46	0,00	0,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
42,86	136191	39873 IS	0,00	0,00	0,00	142,00
63,50	136287	40570 IS	0,00	0,00	0,00	156,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
41,28	915595	39873 IS	0,00	0,00	0,00	142,00
50,80	133019	39235 A	480,20	338,10	31,00	0,00
57,15	136550	40585	478,00	305,00	33,00	133,00
44,45	915642	40006 A	450,80	317,46	0,00	0,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
42,86	136191	39873 IS	0,00	0,00	0,00	142,00
63,50	136287	40570 IS	0,00	0,00	0,00	156,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
41,28	915595	39873 IS	0,00	0,00	0,00	142,00
50,80	133019	39235 A	480,20	338,10	31,00	0,00
57,15	136550	40585	478,00	305,00	33,00	133,00
44,45	915642	40006 A	450,80	317,46	0,00	0,00
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44,45	915642	40006 A	450,80	317,46	0,00	0,00
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44,45	915642	40006 A	450,80	317,46	0,00	0,00
50,80	915559	40209 IS	0,00	0		



ARANA Y LUPARDO, 2
48490 UGAO-MRAVALLES/VIZCAYA (SPAIN)
Tfno.: 946480211
Fax: 946480128
Email: calpradera@calibradospradera.es
www.calibradospradera.es

CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

ALBARAN	CLIENTE	Nº CERTIFICADO / CERTIFICATE NR.: 44806
44806	LBS ACIERS TRANSBEC (1997) LTÉE	
Delivery Note Nr.	CUSTOMER	

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

DEPARTAMENTO DE CALIDAD: Certifican que el mencionado producto cumple con las especificaciones del pedido.

QUALITY DEPARTMENT: Certify that the product fulfills the order specifications.

Firmado: Susana Fernández
Directora de Calidad

Fecha/Date: 11/11/2016





ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No., Item & Date: 8053475 000070 2017/06/04	Shipment No. & Date: 1000243071 2017/06/04	TC No., Date & Time: ESA-405867 2017/06/04 - 13:22:12
Customer PO NO./Item: 791355 / 7		BOL NO.: FB075374
Cust. Part No.: TRANSCARE LOGISTIC CORP. - 638		Carrier:
Customer Specification: HIR STEEL SHEET Carbon CQ / CS ASTM A1011 CS TYP B (2015) Top Semi Critical Surface Improved Shape Pickled Oiled Gauge type MIN - 0/+ 0.0050 " Coil break considered		
Supplementary Instructions: Test Cert 1:nancy.duni@ryerson.com		
Insp TIR: Chemical Analysis		
ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (709) 945-4095 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT. THIS TEST REPORT HAS BEEN GENERATED BY A COMPUTERIZED SYSTEM AND IS VALID WITHOUT A PHYSICAL SIGNATURE.		
MEETS EN 10204 3.1		
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM		
ALL HEATS FULLY KILLED.		
HEATS INDICATED WITH (*) FINE GRAINED.		
HEATS INDICATED WITH (+) Made in Canada for NAFTA duty preference and NAFTA marking purposes		
Dimensions (T x W x L) 0.1770" x 60.000"		
Batch No. PBO7006		
Heat No. MS 9373C4-55		
Quantity 53,550 LB		
Pcs 1		
Heat No. (Wt%) 9373C4*		
C 0.04 Mn 0.27 P 0.008 S 0.003 Si 0.020 Cr 0.01 Ni 0.01 Cu 0.01 Mo 0.00 Al 0.023 Nb 0.000 V 0.000 Ti 0.001 N 0.0060		

KASHIF REHMAN
MANAGER METALLURGICAL SERVICES

"WARNING" THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATION) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

Benteler Steel/Tube GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49.5254.81-0 Fax: +49.5254.13666

Steel/Tube

Document-Nr.: 41-717496/001/P
Document No.:
No. du document:

Blatt: 1 / 4
Page:
Page:

Purchase Order No.:
No. de commande du client:

No. de commande du client: 1578716
Benteler Auftrags-Nr.:
Benteler Order No.:
No. de commande Benteler:

Wärmrohrwerk/Zieherei
DIN EN ISO 9001, ISO/TS 16949 CERTIFIED BY TÜV NORD CERT
DIN 9723 EC CERTIFIED BY TÜV NORD SYSTEMS

Stempel des Abnahmebeauftragten: WA
Stamp of the inspection representative:
Ponçon du contrôleur:

Stahlerschmelzungsverfahren: ELEKTROSTAHL
Steelmaking process: ELECTRIC FURNACE
Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

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Conditions de livraison: AMS 2253E-83, Aircraft Type, Seamless, Cold Finished

Maße - Toleranzen:

AMS 2253E-83, Aircraft Type, Seamless, Cold Finished

NOV 26 2012

 z

FSO: BENTELER AMS-T-6736 B 1-MIL-T-6736 B 1-4130 N HEAT-NO. CD AQ S DIMENSIONS WA
GERMANY

GERMANY

[illegible]

Item#	126385	Item-CDS	1.000	.120	.760	4130	Heat #	217067
-------	--------	----------	-------	------	------	------	--------	--------

Benteler Steel/Tube GmbH
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BENTELER

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-717496/001/P

Inspection No.:
No. du document:
No. du certificat

Blatt: 2 / 4
Page:
Page:

Pos.	Stück	Masse	Item	Number	Dimensions	Poste	Nombre	Dimensions	Länge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.	Gruppe	Vielfachlängen
									Longueur	Poids	Heat No.	Test pressure	Tube number	group	Multiple lengths
									feet	lbs	No. de coulée	Pression d'épreuve	Série de no. des tubes		Longueurs multiples
0016	161	1.000" O.D. • 0.120"							3169,29	3576	217067				
		17 FT - 24 FT													

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulée									
0016	217067	0,315	0,250	0,54	0,007	0,003	0,89	0,19	0,09	0,11

Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulée									
0016	217067	0,310	0,250	0,52	0,007	0,003	0,88	0,19	0,07	0,10

Prüfergebnisse / Test results / Résultats des essais

Die Rohre wurden zerstörungsfrei geprüft:
The tubes are non destructive tested:
Les tubes ont passé un essai non destructif:

ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections;
ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections;
Notch depth: 0.30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)

PASSED

Augensichtkontrolle:

Visual inspection:
Examen visuel:

PASSED

Materialverwechslungsprüfung:
Material conformity test:
Vérification de la nuance:

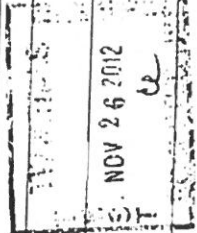
PASSED

Maßkontrolle:
Dimensions examination:
Vérification des dimensions:

PASSED

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Die Probennahme erfolgte an Vielfachlängen.
The sampling was carried out on multiple lengths.
L'échantillonnage était réalisé aux longueurs multiples.



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BENTELER

Steel/Tube

Blatt: 3 / 4
Page:
Page:

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Dokument-Nr.: 41-717496/001/P
INSPECTION CERTIFICATE EN 10204-3.1 Document No.:
CERTIFICAT DE RECEPTION EN 10204-3.1 No. du document:

Zugversuch längs Vollprobe / Tensile test longitudinal Full section test specimen / Essai de traction longitudinale Eurouvette a section complete

Pos. Item	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Probenabmessung Specimen dimensions	Streckgrenze Yield strength	Zugfestigkeit Tensile strength	Dehnung Elongation	Einschnürung Area reduction
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de striction
Anforderungen							
Requirements			mm	Rp 0,2 %	Rm	A2"	1. Formel
Exigences				N/mm ²	N/mm ²	%	1. Formule
				MIN 517	MIN 655	MIN 12	1. Formule
0016	000001	217067	25,40 X 3,05	647	813	22	
0016	000002	217067	25,40 X 3,05	648	813	22	
0016	000003	217067	25,40 X 3,05	628	816	22	
0016	000004	217067	25,40 X 3,05	647	815	22	

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Poste: 0016

acc. MIL-T-6736B / AMS-T-6736B, decarburization outside max. 0.43 mm, decarburization outside + inside max. 0.56 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0016

Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360 and AMS 6371J, material free from mercury contamination, FAR BAA: 52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, Country of origin of the material and heat: Germany; see appendix page 1 of 1.

Pos. / Item / Poste: 0016

Macroscopic examination: acc. to ASTM-E 381

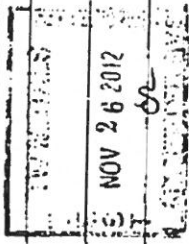
Pos. / Item / Poste: 0016

Magnetic particle inspec.: acc. to AMS 2301 G/2640, on prematerial

Pos. / Item / Poste: 0016

Grain size: acc. to ASTM-E 112, Grain size 5 and finer, Longitudinal structure microscopy. On prematerial

Verkäufer(in) / Salesman/ woman in charge / Personne chargée : Mr Schwarz, Tel.: 05254/81-4347, Fax: 4394



Steel/Tube

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

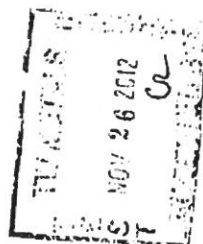
Prüf-Nr.:
Inspection No.:
No. du certificat:

Dokument-Nr.:
Document No.:
No. du document:

Blatt: 3 / 4
Page:
Page:

Abnahmebeauftragter
Inspection representative
Contrôleur

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsverbindlich.
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique et est valide sans signature.



Benteler SteelTube GmbH
Residenzstraße 1
33104 Paderborn
Germany
Tel. 49 5254 81-0 Fax: 49 5254 13656



Steel/Tube

Abnahmeprüfzeugnis EN 10204-3.1 / Anhang
Inspection Certificate EN 10204.3.1 / appendix
Certificat de réception EN 10204-3.1 / appendice

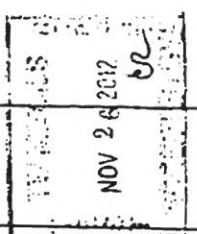
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Document No.:
No. de document:

41-717496/001/P

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Page: 1 of 1
Page: de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

Schmelzen-Nr. Heat No. Coulée No	Position Item Poste	Korngröße Grain size Grosseur de grain (ASTM-E 112)	Hartbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempeabilité (exigence min.) (ASTM-A 255)		Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301G / 2640J)	Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)			
			J(5/16") min. 35 HRC	J(8/16") min. 28 HRC		F max. 0,34	S max. 0,25	max. S 2	max. R 1
217067	016	10	39	31	0.039	0.024	S 2	R 1	C 2
Decarburization Depth		Outside 0.050 mm Inside 0.030 mm							



Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Paderborn Schloß Neuhaus. 05.10.2012
Tel.: (0)5254 81-1992 Fax: (0)5254 81-1991



Abnahmebeauftragter
Inspection representative
Contrôleur

Thomas Gollan

Eaton Steel Bar Company Inspection Certificate 1601418

EN 10204:2004-3.1

BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
201063	27-Oct-2016	B96887	11122 rev 004	V016202	1-3/4 HR RD 4140/42MM 24R SBQ QTSF FG MST

All bundles listed below were produced using steel from Heat 166509 issued by ALTON STEEL and were completed from Eaton Steel Job 790489.

Chemistry	Description	Value	Units	Heat Treating	Description	Value	Units
C	Carbon	0.41000	PGT	TEMPER TEMP F	Temper Temp in Fahrenheit	500 - 2500	DEGP
Mn	Manganese	0.89000	PGT	AUSTEN TEMP F	Austenitize Temp in Fahrenheit	1600 - 1700	DEGP
P	Phosphorus	0.01400	PGT	SR TEMP F	Stress Relief Temp in Fahrenheit	500 - 2500	DEGP
S	Sulfur	0.02200	PGT	MAGNETISM-IT	Magnetism in Gauss	0 - 20	GN
Si	Silicon	0.23000	PGT	TIME AT TEMP	Time at Temperature	Report	
Ni	Nickel	0.10900	PGT	QUENCH MEDIA	Quench Media Requirements	P4H/O	
Cr	Chromium	0.84600	PGT	STRESS FREE	Cert stress free	CERTIFIED	
Mo	Molybdenum	0.16200	PGT	HT4140-42QT	Quench & Temper	CONFORMS	
Al	Aluminum	0.00100	PGT	MILL PROCESSING	Description	Value	Units
Cu	Copper	0.21000	PGT	MELT COUNTRY	Melted in Country	USA	
V	Vanadium	0.02800	PGT	ROLLED COUNTRY	Rolled in Country	USA	
Cb	Columbium	0.00200	PGT	RED RATIO	Reduction Ratio	20.37	KED
N	Nitrogen	0.01000	PGT	ASTM Standard	Description	Value	Units
P+S	Element Sum Limit	0.03600	PGT	A193/193H-01	Grade #7	CONFORMS	
DI	Ideal Diameter	4.97000	IN	A434-90a-BC	ASTM BC Tensile and Yield Properties	CONFORMS	
Cleanliness	Description	Value	Units	Structure	Description	Value	Units
MACRO ETCH	Report macro etch results.			PERCENT TM	Percent Tempered Martensite	80 - 100	PCT
Geometry	Description	Value	Units	MICROSTRUCTURE	Reported Microstructure	TM	
DIAMETER	Diameter	1.7344 - 1.7656	IN	Tag Number	Qty/Units	Length	
Jominy	Description	Value	Units	022-1875938	4155 LBS	23ft36in/24ft3in	
J1	1/16 inch from Quenched End	56	HRC				
J2	2/16 inch from Quenched End	56	HRC				
J3	3/16 inch from Quenched End	56	HRC				
J4	4/16 inch from Quenched End	56	HRC				
J5	5/16 inch from Quenched End	56	HRC				
J6	6/16 inch from Quenched End	55	HRC				
J7	7/16 inch from Quenched End	54	HRC				
J8	8/16 inch from Quenched End	52	HRC				
J9	9/16 inch from Quenched End	51	HRC				
J10	10/16 inch from Quenched End	50	HRC				
J11	11/16 inch from Quenched End	0.06000	HRC				
J12	12/16 inch from Quenched End	47	HRC				
J14	14/16 inch from Quenched End	45	HRC				
J16	16/16 inch from Quenched End	43	HRC				
J18	18/16 inch from Quenched End	42	HRC				
J20	20/16 inch from Quenched End	41	HRC				
J22	22/16 inch from Quenched End	0.07000	HRC				
J24	24/16 inch from Quenched End	40	HRC				
J26	26/16 inch from Quenched End	37	HRC				
J28	28/16 inch from Quenched End	35	HRC				
J32	32/16 inch from Quenched End	35	HRC				
Mechanical	Description	Value	Units				
TENSILE PSI	Tensile Strength in PSI Units	151300	PSI				
YIELD PSI	Yield Strength in PSI Units	130300	PSI				
ELONGATION	Percent Elongation	19.00	PC				
REDUCTION	Percent Reduction in Area	55.0	PC				
BRINELL SURF	Brinell Surface	321.0	HN				

Bundle tags with Eaton Steel identifiers reference the steel grade, heat, purchase order number, part number, product description and weight. Tested and certified in accordance with Eaton Steel's Quality Manual QM-C0001 / Rev 3 / 2/2013.

We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to mercury while in the possession of Eaton Steel.

Created on 27-Oct-2016
 Thomas Snabes, Corporate Metallurgist
 10221 Capital Avenue, Oak Park, MI 48237 USA
 Tel: 248-398-3434
 Fax: 248-398-1434
 http://www.eatonsteel.com



Alison Savel Test Lab
#5 Out Street
Albany, IL 62002-9011
(618) 463-4490 EXT 2485
(618) 463-4491 (Fax)

BILL TO		SHIP TO	
Eaton Steel Corporation 1221 Capital Avenue Oak Park, MI 48237		Eaton Steel Corporation 470 Apollo Heat Treat 10420 Capital Street Oak Park, MI 48237	
Date: 02/10/2015 AS Order No: 166209 AS Order Item: 1		Specifications: 156912-MS 156922 Item Description: 156912-MS Steel Bar, Hot Rolled, 12x20, 24' 2"	
Customer PO: 156912-MS Customer FT: 156922		SPC 11491 ASTM A 304-11, ASTM A 322-07	
Heat Number: 166209		Yield PSI: 156912-MS Tensile PSI: 156922 % Elongation: 156912-MS % ROA: 156922	
CHEMICAL ANALYSIS TEST METHODS ASTM E-415 & E-1019			
JOINT HARDENABILITY USING ASTM A-285 CALCULATED FROM CHEMICAL DI			
Heat Number: 166209 Hardness: 166209 7 4.97			
SPECIAL TEST RESULTS			
J1 J2 J3 J4 J5 J6 J7 J8 J9 J10 J11 J12 J13 J14 J15 J16 J17 J18 J19 J20 J21 J22 J23 J24 J25 J26 J27 J28 J29 J30 J31 J32 J33 J34 J35 J36 J37 J38 J39 J40 J41 J42 J43 J44 J45 J46 J47 J48 J49 J50 J51 J52 J53 J54 J55 J56 J57 J58 J59 J60 J61 J62 J63 J64 J65 J66 J67 J68 J69 J70 J71 J72 J73 J74 J75 J76 J77 J78 J79 J80 J81 J82 J83 J84 J85 J86 J87 J88 J89 J90 J91 J92 J93 J94 J95 J96 J97 J98 J99 J100 J101 J102 J103 J104 J105 J106 J107 J108 J109 J110 J111 J112 J113 J114 J115 J116 J117 J118 J119 J120 J121 J122 J123 J124 J125 J126 J127 J128 J129 J130 J131 J132 J133 J134 J135 J136 J137 J138 J139 J140 J141 J142 J143 J144 J145 J146 J147 J148 J149 J150 J151 J152 J153 J154 J155 J156 J157 J158 J159 J160 J161 J162 J163 J164 J165 J166 J167 J168 J169 J170 J171 J172 J173 J174 J175 J176 J177 J178 J179 J180 J181 J182 J183 J184 J185 J186 J187 J188 J189 J190 J191 J192 J193 J194 J195 J196 J197 J198 J199 J200 J201 J202 J203 J204 J205 J206 J207 J208 J209 J210 J211 J212 J213 J214 J215 J216 J217 J218 J219 J220 J221 J222 J223 J224 J225 J226 J227 J228 J229 J230 J231 J232 J233 J234 J235 J236 J237 J238 J239 J240 J241 J242 J243 J244 J245 J246 J247 J248 J249 J250 J251 J252 J253 J254 J255 J256 J257 J258 J259 J260 J261 J262 J263 J264 J265 J266 J267 J268 J269 J270 J271 J272 J273 J274 J275 J276 J277 J278 J279 J280 J281 J282 J283 J284 J285 J286 J287 J288 J289 J290 J291 J292 J293 J294 J295 J296 J297 J298 J299 J300 J301 J302 J303 J304 J305 J306 J307 J308 J309 J310 J311 J312 J313 J314 J315 J316 J317 J318 J319 J320 J321 J322 J323 J324 J325 J326 J327 J328 J329 J330 J331 J332 J333 J334 J335 J336 J337 J338 J339 J340 J341 J342 J343 J344 J345 J346 J347 J348 J349 J350 J351 J352 J353 J354 J355 J356 J357 J358 J359 J360 J361 J362 J363 J364 J365 J366 J367 J368 J369 J370 J371 J372 J373 J374 J375 J376 J377 J378 J379 J380 J381 J382 J383 J384 J385 J386 J387 J388 J389 J390 J391 J392 J393 J394 J395 J396 J397 J398 J399 J400 J401 J402 J403 J404 J405 J406 J407 J408 J409 J410 J411 J412 J413 J414 J415 J416 J417 J418 J419 J420 J421 J422 J423 J424 J425 J426 J427 J428 J429 J430 J431 J432 J433 J434 J435 J436 J437 J438 J439 J440 J441 J442 J443 J444 J445 J446 J447 J448 J449 J450 J451 J452 J453 J454 J455 J456 J457 J458 J459 J460 J461 J462 J463 J464 J465 J466 J467 J468 J469 J470 J471 J472 J473 J474 J475 J476 J477 J478 J479 J480 J481 J482 J483 J484 J485 J486 J487 J488 J489 J490 J491 J492 J493 J494 J495 J496 J497 J498 J499 J500 J501 J502 J503 J504 J505 J506 J507 J508 J509 J510 J511 J512 J513 J514 J515 J516 J517 J518 J519 J520 J521 J522 J523 J524 J525 J526 J527 J528 J529 J530 J531 J532 J533 J534 J535 J536 J537 J538 J539 J540 J541 J542 J543 J544 J545 J546 J547 J548 J549 J550 J551 J552 J553 J554 J555 J556 J557 J558 J559 J560 J561 J562 J563 J564 J565 J566 J567 J568 J569 J570 J571 J572 J573 J574 J575 J576 J577 J578 J579 J580 J581 J582 J583 J584 J585 J586 J587 J588 J589 J590 J591 J592 J593 J594 J595 J596 J597 J598 J599 J600 J601 J602 J603 J604 J605 J606 J607 J608 J609 J610 J611 J612 J613 J614 J615 J616 J617 J618 J619 J620 J621 J622 J623 J624 J625 J626 J627 J628 J629 J630 J631 J632 J633 J634 J635 J636 J637 J638 J639 J640 J641 J642 J643 J644 J645 J646 J647 J648 J649 J650 J651 J652 J653 J654 J655 J656 J657 J658 J659 J660 J661 J662 J663 J664 J665 J666 J667 J668 J669 J670 J671 J672 J673 J674 J675 J676 J677 J678 J679 J680 J681 J682 J683 J684 J685 J686 J687 J688 J689 J690 J691 J692 J693 J694 J695 J696 J697 J698 J699 J700 J701 J702 J703 J704 J705 J706 J707 J708 J709 J710 J711 J712 J713 J714 J715 J716 J717 J718 J719 J720 J721 J722 J723 J724 J725 J726 J727 J728 J729 J730 J731 J732 J733 J734 J735 J736 J737 J738 J739 J740 J741 J742 J743 J744 J745 J746 J747 J748 J749 J750 J751 J752 J753 J754 J755 J756 J757 J758 J759 J760 J761 J762 J763 J764 J765 J766 J767 J768 J769 J770 J771 J772 J773 J774 J775 J776 J777 J778 J779 J780 J781 J782 J783 J784 J785 J786 J787 J788 J789 J790 J791 J792 J793 J794 J795 J796 J797 J798 J799 J800 J801 J802 J803 J804 J805 J806 J807 J808 J809 J810 J811 J812 J813 J814 J815 J816 J817 J818 J819 J820 J821 J822 J823 J824 J825 J826 J827 J828 J829 J830 J831 J832 J833 J834 J835 J836 J837 J838 J839 J840 J841 J842 J843 J844 J845 J846 J847 J848 J849 J850 J851 J852 J853 J854 J855 J856 J857 J858 J859 J860 J861 J862 J863 J864 J865 J866 J867 J868 J869 J870 J871 J872 J873 J874 J875 J876 J877 J878 J879 J880 J881 J882 J883 J884 J885 J886 J8			

Lab Services Report



10221 Capital Avenue
Oak Park MI 48237
(248)543-3578 telephone
(248)398-1434 facsimile

Bill To: Apollo Heat Treating
10400 Capital Avenue
Oak Park, MI
Attn: Randy Call
rcall@apolloht.com

Ship To: Apollo Heat Treating
10400 Capital Avenue
Oak Park, MI
Report Date: 10/14/2016
Report ID: 16-3002
Request ID:

This report contains results for the indicated services performed on the following sample(s):

Part No	11132 QTSF	Finish	HR	Shape	Round
Size	1-3/4	Grade	4140	Work Order	799489
Titan Sample ID	Host	Customer Sample ID	WD 799489 Job 2167		
16-3002-1	160000				

Steve Avery

Report Approved By: Steve Avery

Mechanical Testing

ASTM E8M-15a

ASTM E10-15



Mechanical Testing

ASTM E8M-15a

ASTM E10-15

Sample ID	Ultimate Tensile, psi	0.2% Offset Yield, psi	Elongation, %	Reduction of Area, %	HBW Surface
16-3002-1	151,300	138,300	19	55	321

Test Comments

Mechanicals tested at Mid Radius

Any services within a section marked with * are not part of Tian Medical's current A2LA accreditation.
All testing performed by Tian Medical was done at ambient (room) temperature



Heat Treating & Processing Company, LLC.

10400 Capital Avenue • Oak Park, Michigan 48237 • (248) 398-3434

CERTIFICATION OF HEAT TREATMENT

Date: 10 / 17 / 2016

Certification Number: 16 - 0467

Customers Order Number: 799489

Part Number: 10902 - 11132

Heat Number: 166509

Heat Treat Job Number: 2167

Material: 4140

Quantity: 206 Pcs.

Weight: 41,080 Lbs.

Description: 1.7500" Diameter x 24' 2" Length

Per Specification: ESH1 HT4140 - 42QT

	Temperature	Time at Heat	Coolant
Normalized	N/A		
Preheat	N/A		
Austenitized/Hardened	1600 °F	45 Minutes	
Spray Quenched	102.8 °F - 104.8 °F	N/A	Water
Temper	1220 °F	1 Hour 15 Minutes	Air Cooled to Ambient
	N/A		

Method of heat treat monitor, set point thermocouple (Type K). Equipment calibrated per AMS2750E.
We hereby certify the above material has been treated in the manner described are correct as
contained in the records of Apollo Heat Treating and Processing, LLC.



Randy L. Call

Plant Manager

Apollo Heat Treating & Processing, LLC

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-HR50-0.375
DATE: SEP 27 2017

MATERIAL CERT REC'D: 16547
QUANTITY RECEIVED: 16547
QUANTITY INSPECTED: 16547
QUANTITY REJECTED: 0

PO / BATCH NO.: 0037836/M138616

THICKNESS ORDERED: 0.375
THICKNESS RECEIVED: 0.366
SHEET SIZE ORDERED: N/A
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y	
CORRECT FINISH	Y	
CORROSION	Y	
CORRECT GRAIN DIRECTION	Y	
CORRECT MATERIAL PER M-DRAWING	Y	
CORRECT THICKNESS	Y	
PHOTO REQUIRED	Y	
CORRECT REF # TO LINK CERT	Y	
CORRECT MATERIAL IDENTIFICATION	Y	
CORRECT M# ON THE MATERIAL	Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
HRC	HRB	DUR A	DUR D	WEBSTER
RECORD RESULTS BELOW				
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: *John D.*

SIGNED OFF BY:

DATE: SEP 27 2017

DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV	DESCRIPTION	DATE	BY	APPROVED
A	NEW ISSUE	24.07.15	SAC	WM

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL:

SPECIFICATION:

PART NUMBER:

HOT ROLLED STEEL PLATE

ASTM A36 OR ASTM A1011 OR 44W OR ASTM A1018

MT-HRS-P-[L.LL]x[W.WWW]x[T.TTT]

WHERE L.LL IS PLATE LENGTH IN INCHES

WHERE W.WWW IS PLATE WIDTH IN INCHES

WHERE H.HHH IS PLATE THICKNESS IN INCHES

MT-HRS-P-24.000x24.000x0.750

TOLERANCES PER MANUFACTURER SPECIFICATIONS

EXAMPLE:

Eqn 17.657

 DART AEROSPACE Hemel Hempstead, Herts, UK	
TITLE HOT ROLLED STEEL PLATE	
DWG NO. MT-HRS-P	
DESIGN BY: SAC 08/2012	CHECKED BY: WM 09/12/2012
DATE: 08/12/2012	DATE: 09/12/2012
WFO APPR: PD 09/14/2012	DATE: 09/14/2012
APPROVED: WM 09/15/2012	DATE: 09/15/2012
SCALE: NTS WEIGHT N/A LBS	
DATE: 9/13/2017	
SHEET 1 OF 1	

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4140A-BL1750 DATE: SEP 27 2017

PO / BATCH NO.: 0037836/M38616

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 2'
 QUANTITY INSPECTED: 2'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.750
 THICKNESS RECEIVED: 1.778
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	<u>ASTM A304</u>
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	<u>H+# 166509</u>
CORRECT # ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER

Testers located in the Quality Office

QC 18 INSPECTION
 ENGINEERING SIGNOFF (if required)
 INSPECTED BY: 5
 SIGNED OFF BY: 8-89
 DATE: SEP 27 2017

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

RELEASED
05 03 25

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Eg. 7/8" Round Bar = M4140H-R0.875

PART NUMBER: M4140H-R | D.DDD | DIA.
WHERE D.DDD = DIAMETER IN INCHES
MINIMUM YIELD TENSILE STRENGTH = 66 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 100 KSI
UNS# - G41400
-A193-03-GRADE-B7 / -A29-03 / -A322-91 OR
PER AISI 4140 OR ASTM A304-02 / -A-434-BC /
PURCHASE MATERIAL: AISI 4140H ROUND BAR
DAS
5
8-89

DESIGN BY	DRAWN BY	CHECKED	APPROVED	TITLE	DATE	A
				M4140H-R	05.02.21	05.02.21
DART Aerospace Ltd			HAWKESBURY, ONTARIO, CANADA			NEW ISSUE
REV. A			SHEET 1 OF 1			SCALE
1:1			4140 ROUND BAR			



MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M1018 B2.250

DATE: SEP 27 2017

MATERIAL CERT REC'D: yes

QUANTITY RECEIVED: 1

QUANTITY INSPECTED: 1

QUANTITY REJECTED: 0

PO / BATCH NO.: 0037836/M138616

THICKNESS ORDERED: 2.250

THICKNESS RECEIVED: 2.250

SHEET SIZE ORDERED: N/A

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
-------------	-----------------	----------

SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: 5

DATE: SEP 27 2017

SIGNED OFF BY: _____

DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR
SPECIFICATION: MIL-S-7097 OR ASTM A108

PART NUMBER:

M1018-R/D DDD WHERE D, DDD = DIAMETER IN INCHES
DIA.

TOLERANCES:

EG. 7/8" ROUND BAR = M1018-R0.875
PER ASTM A108 AS FOLLOWS:

SIZE	TOLERANCE
UP TO 1.5" INCL.	+0.000/-0.002
OVER 1.5" TO 2.5" INCL.	+0.000/-0.003
OVER 2.5" TO 4.0" INCL.	+0.000/-0.004
OVER 4.0" TO 6.0" INCL.	+0.000/-0.005
OVER 6.0" TO 8.0" INCL.	+0.000/-0.006

DAS
5
B-89

RELEASED
2012-09-24

B	REFORMAT, ADD ASTM A108, ADD TOLERANCES	CP	12.09.05
A	NEW ISSUE	DS	01.06.12
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	CP		
CHECKED	CP		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.09.05		
TITLE		REV. B	
1018-1025 ROUND BAR		SHEET 1 OF 1	
SCALE		NTS	

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: WT-HRPO-S6GA DATE: SEP 27 2017

PO / BATCH NO.: 0037836/MB8616

MATERIAL CERT REC'D: 505614
 QUANTITY RECEIVED: 505614
 QUANTITY INSPECTED: 505614
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .194
 THICKNESS RECEIVED: .182
 SHEET SIZE ORDERED: 5X0
 SHEET SIZE RECEIVED: 5X10

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION
 ENGINEERING SIGNOFF (if required)
 INSPECTED BY: DAS
 DATE: SEP 27 2017
 SIGNED OFF BY: 9-89
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PART NUMBER:

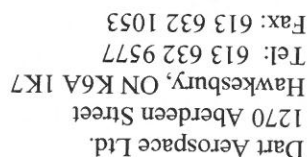
GAUGE

HOT ROLLED PICKLED & OILED STEEL SHEET
ASTM A36 OR ASTM A1011
MT-HRPO-S-L.LLLXW-WWWXG-00
WHERE L.LLL IS SHEET LENGTH IN INCHES
WHERE W.WWW IS SHEET WIDTH IN INCHES
WHERE G IS GAUGE THICKNESS
MT-HRPO-S-24X12X6GA

DART
AEROSPACE Hawkbury, Ontario, Canada

TIME
HOT ROLLED P&O STEEL SHEET

[illegible]



Purchase Order ID PO37836

Purchase Order Date 9/22/2017
PO Print Date 9/22/2017

Page Number 1 of 3

Order From :

VC-CAM002

Ship To : DART AEROSPACE LTD

ACIER OUELLETTE INC.
935 BOUL. DU HAVRE
VALLEYFIELD, QC J6S 5L1
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

SEP 22 2017

Contact Name _____
 Vendor Phone _____
 Ship To Contact _____
 Ship To Phone _____
 Ship Via: _____
 Ship Acct: _____

800 667 4248

Yours pdd

Ship To Contact
Ship To Phone

FOB
Currency

Customer Tax # 10127-2 Terms Net 30

10127-2607

FCA - (Free Cartier)

[illegible]

MT-A513-T-1.000W0.120	A513 Seamless Alloy Steel	10/6/2017	FN	20.00	\$11.25	\$225.00
<p>Round Tubing 1" dia. x 0.120" Wall</p> <p>Yes</p> <p>10/6/2017</p> <p>f</p>						
<p>MATL: ASTM A513 SEAMLESS ALLOY STEEL ROUND TUBING AS PER</p> <p>ASTM A513</p>						

Item	Quantity	Unit Price	Total Price
M4140H-KL.750	1	1.750	\$1.75
4140 Round Bar	1	1.750	\$1.75
10/6/2017 FN	2.00	2.00	\$37.50
Yes			
10/6/2017			

MATL: AISI 4140H ROUND BAR AS PER
 AISI 4140/ASTM A304-02/A-434-BC OR A193-03- GRADE B7/A29-03/A322-91 OR
 UNS G41400

UNSG41400

Line Total:

\$75.00

Line Total:

\$225.00

\$37.50

\$75.00

9/22/2017

Note:

PO Instructions: QUOTATION: SOU0057382



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER
Purchase Order ID PO37836
Purchase Order Date 9/22/2017
PO Print Date 9/22/2017
Page Number 2 of 3

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Order From :

ACIER OUELLETTE INC.
935 BOUL. DU HAVRE
VALLEYFIELD, QC J6S 5L1
CA

Contact Name
Vendor Phone 800 667 4248

Ship To Contact
Ship To Phone
Ship Via:
Ship Acct:

Yours ppd

3 MT-HRPO-S6GA

Hot Rolled Pickled &
Oiled Steel Sheet 6GA

10/6/2017
Yes

MATL: HOT ROLLED PICKLE & OILED STEEL SHEET AS PER
ASTM A36 OR ASTM A1011

4 M1018R2.250

M1018R2.250

10/6/2017
Yes

MATERIAL: AISI 1018-1025 ROUND BAR AS PER
MIL-S-7097 OR ASTM A108

5 MT-HRS-P-0.375

Hot Rolled Steel Plate
0.375" (44W)

10/6/2017
Yes

MATL: HOT ROLLED STEEL PLATE AS PER
ASTM A36/ASTM A1011/44W OR ASTM A1018

PO Instructions: QUOTATION: SOU0057382
Note:

9/22/2017

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

50.00
sf

\$7.20

\$360.00

Line Total:

\$360.00

\$17.16

\$17.16

Line Total:

\$17.16

\$222.68

\$13.92

16.00

f

Line Total:

\$222.68



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER
Purchase Order ID PO37836
Purchase Order Date 9/22/2017
PO Print Date 9/22/2017

Page Number 3 of 3

Order From :

ACIER OUELLETTE INC.
935 BOUL. DU HAVRE
VALLEYFIELD, QC J6S 5L1
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 800 667 4248

Ship To Contact
Ship To Phone
Ship Via:
Ship Acct:

Yours ppp

PROUREMENT
QUALITY CLAUSES

10/6/2017
No

1.00

FCA - (Free Carrier)

CAD

Net 30

10127-2607

Chantal Lavoie

Buyer
Customer POID
Customer Tax #

Terms

Currency

FOB

10/6/2017

10/6/2017
No

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

8179-27

Line Total:

\$0.00

PO Total:

\$899.84

PO Instructions: QUOTATION: SOU0057382

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 2

Change Date: 9/22/2017



935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Quotation

SOU0057382

Customer No CL10001056

Date 2017/09/12

Revision No 0

Prices valid until 2017/09/19

Your Order No

Processed by BERNARD

Salesman JOSIANNE

Carrier QUELLE SDV

Credit Terms Net 30 Days

Page 1

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.

HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

At: CHANTAL LAVOIE Tél.: 613-632-5200

Product No and description	Weight	Qty U/M	Qty U/M	Price	Pcs Nb	Price	Amount
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CR SHEET 206 (4 X 8) FECR-20648 3282 1 X 4' X 8' STOCK	48.00	32.00	P12-\$CLB	1.00	UN	1.00	38.38
PLATE 44W 3/8 RANDOM P44-38-V 4116 1 X 4' X 4' STOCK NON-DISPONIBLE 1018-1020 OFFRE 44W COUPE AU FEU FEU 3	244.80	16.00	P12-\$CLB	16.00	P12	1.00	222.68
ROUND CR 2 1/4 1018 RANDOM RCR-214-V 5301 1 X 12" STOCK COUPE A LA SCIE SCIE 1	13.52	1.00	PI-\$CLB	1.00	PI	1.00	17.16
FEUILLE HRPO 3/16 MT-HRPO-3 1 X 5' X 10' 2-3 JOURS ONLY THAT SIZE AVAILABLE	0.00	1.00	UN	1.00	UN	1.00	360.00
COLD DRAWN SEAM. TUBING 1" OD X .120 MT-AS13 1 X 20' 2-3 DAYS 4140N 1 3/4" DIA N 1 X 2' 3-4 DAYS	0.00	1.00	UN	1.00	UN	1.00	255.00
SURCHARGE ENERGÉTIQUE	0.00	1.00	UN	1.00	UN	1.00	75.00
FRAIS-ENERGETIQUE	\$						3.95

Total Weight (Lbs) 306.32

Sub-total

972.17

Total (\$CAD)

1 098.55

This offer is based on availability and current pricing conditions that may be revised upon presentation of the evolution des prix de l'acier sur le marché.

Les offres sont soumises à la condition que les prix puissent être révisés en fonction de l'évolution des prix de l'acier sur le marché.

Approved and Accepted by :

Date :

Chantal Lavoie

From: Regis Quenneville
Sent: Wednesday, September 13, 2017 9:49 AM
To: Kim Johnston; Chantal Lavoie
Cc: David Duval
Subject: C10 CAGE MAT'L

Kim, here is the mat'l left to enter into the system for the C10 Cage.

Chantal, once that's entered everything should be in the system for the Cage. I will find out how many we need to make before you order should only be one.

Thx

MT-HRPO-S-24.000X24.000X6GA
MT-A513-T-1.000X0.120
MT-HRS-P-24.000X24.000X0.375
MT-A513-T-1.000X0.120
MT-A513-T-1.000X0.120

Here is the complete list of mat'l and hardware we need to order to make one C10 Cage ass'y :

M1018S.312 (4'x4')
M1018R2.250 (1')
MT-HRPO-S-24.000X24.000X6GA (x1)
MT-A513-T-1.000X0.120 (24')
MT-HRS-P-24.000X24.000X0.375 (x1)
MT-A513-T-1.000X0.120 (omit)
MT-A513-T-1.000X0.120 (omit)
6381K193 (x1)
M4140H-R1.750 (1')
91257A857 (x1)
E31Z-4730-A (x1)
90576A118 (x1)
91074A131 (x1)
98338A290 (x1)
AN8-37A (x2)
AN960-816L (x4)
MS21044N8 (x2)

MT-HRPO-S-65A
MT-HRS-P-G.375

please change mat'l. on Bom.